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MEDICO-LEGAL TOPICS.

Causes and Modes of Death — Plain Hints About Medico-Legal Autopsies.

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Death, physiologically considered, is the complete, final and generally painless cessation of all the vital processes of the body. By its advent physiological processes are changed to chemical processes; constructive tissue metamorphosis to destructive metamorphosis; the heretofore living tissue being converted by putrefaction into carbonic acid, water, ammonia and the earthy salts.

In every death, whether from disease or violence, it is interesting and instructive to know why and how life's vital spark was extinguished—which of her sentinels was delinquent or overcome, and the manner or mechanism by which the physiological inertia was brought about.

In medico-legal inquiries this is the paramount question, What was the cause of death?

For upon it may hang the guilt or innocence of one accused of murder. In life insurance it is the paramount consideration, as it may determine the payment or forfeiture of the loss.

Upon the answer in death from contagion the public depends for its safety in the transportation and disposal of the dead. In hereditary disease it is of vital import to the family, and in death from whatsoever cause it is the physician's best instructor.

Now, since vital force or life depends for its maintenance on the three processes of innervation, circulation and respiration, it is evident that any force which interrupts or permanently interferes with either of these functions would stop the vital machine—and that the stoppage may be brought about either directly by lesions involving the continuity of either set of organs, or indirectly by interference with their circulation or with the nervous mechanism by which they are controlled. Indeed, so closely are the three systems correlated, and so closely does failure of one follow upon that of the other, that it is often difficult to say which was first to fail or last to cease. In accordance with the three vital centers modes of death have been classified as death beginning at the head, death beginning at the heart and death beginning at the lungs—or *coma*, *syncope* and *asphyxia*. Now, this classification is open to criticism. For, it may be said, fatal thrombosis is not death beginning at the *heart*, but in the *blood*. Nor is a lesion of the spine, such as occurs in hanging, death beginning at the *head*, but in the *neck*. And yet we find hanging may cause death by either of the three modes—by coma, from compression of the veins and congestive apoplexy; by syncope, from compression or rupture of the spinal cord, and vaso motor paresis; or by asphyxia, from compression of the trachea. So all forms of death—broadly construed—are believed to be resolvable into one of these three modes at last.

In fatal coma, the functions of the cortex are first suspended—unconsciousness and loss of voluntary motion ensuing; but the automatic centers in the medulla succumb more slowly, hence the heart and lungs for a time continue their movements.

Coma may be due to pressure on the cor-

tex, as by a depressed fragment of bone, or by extravasated blood—effusions, tumors, inflammations, heat stroke—or any condition by which the capillaries of the cortex are compressed, whether from the surface or from within. Pressure arrests the circulation in the sensory and psychomotor centers—cuts off nutrition, arrests their function and sensory and motor paralysis ensues. And finally the effects are propagated to the cardiac and respiratory centers and the person lapses into death.

Concussion alone does not produce *coma* but *shock*, and if coma supervenes it is an evidence that concussion is followed by effusion and pressure. Effusions from violence and from disease may often be distinguished from each other by their location—those from violence being generally found between the skull and dura mater, or between the dura and brain; while in disease they are generally within the substance of the brain. (Reese.) Moreover in effusions from violence, contusions of the scalp or fractures are generally but not necessarily found over the seat of effusion, or on the opposite side of the head, the effect being due to counter-stroke.

Coma may also be due to a poison in the cerebral circulation originating either within the body, as in diabetic or uræmic coma, or without, as in opium or alcoholic coma. It may also be due to cerebral embolism, or may arise from functional disturbance of the cortical cells due to reflex irritation, or to their automatic discharge of gray matter, as in epileptic coma. Hence one found comatose may be suffering from violence, poison or cerebral disease.

In fatal syncope, or heart-failure in its broadest sense, the heart and vessels first prove deficient as carriers of blood to the brain, unconsciousness and death ensuing. And here the heart or the blood may be first at fault. The heart may stop from intrinsic defects of valves or musculature; or from paralysis of its nervous mechanism, as in shock; or from deficient quantity of blood (anæmia) in hemorrhage or depletion; or from deficient quality of blood, as in asthenia in chronic and wasting disease.

In asphyia there is first an obstruction to the interchange of gases between the air and blood, resulting in stoppage of the circulation in the pulmonary and systemic capillaries, which are incapable, or imperfectly capable, of conveying venous blood. But why and how does stoppage of respiration cause stoppage of circulation? The main force which maintains capillary circulation is the difference in blood pressure between the arteries and veins, assisted by the protoplasmic movements of the capillaries themselves.

The first interference with respiration stimulates the inspiratory and vaso motor centers, causing labored inspiration and increased arterial pressure. As the carbondioxide accumulates the expiratory center is over stimulated, expiration becoming violent even to general convulsions. Finally over stimulation is followed by paralysis of respiration. But as respiration fails, the venous blood lowers the nutrition and lessens the force of the heart, thus diminishing arterial pressure on the one side, while the aspiratory or suctional effect of the thoracic movements, now having ceased to attract the blood from the veins, the venous pressure is augmented on the other side. Hence an equilibrium is established between arterial and venous pressure favoring stasis in the narrow capillaries. The now highly venous blood irritates the vaso motor center, constricting the arterioles and shutting off the current at the capillaries, while within them the circulating leucocytes loose their amœboid movements and adaptations to the calibre of the smaller capillaries and hence become clogged. For, these amœboid movements are due to a changing circulation within the leucocytes, and their circulation and movements cease in a medium poor in oxygen. (Landois.) Finally the heart stops, partly from over distention and partly from the paralyzing effect of the venous blood on its automatic motor ganglia and on the vaso motor center.

In deciding whether death was from coma or asphyxia, where preceding symptoms are obtainable, it is well to remember that in coma death is generally slow—in asphyxia

sudden. In coma unconsciousness precedes labored breathing — in asphyxia labored breathing precedes unconsciousness.

The autopsy may be public and under direction of the coroner, or private as in case of damages or life insurance. In either case the accused or opposite party has a right to be present in person, or by attorney, physician or friend. But he or his representative is present merely as a spectator. For it is not a human witness being examined, but inanimate matter, and no cross-examination is possible. Hence the party has no right to participate, and it is best not to invite him—so easily could he put a pinch of arsenic in a jar, or do something to confuse or mislead. But the absence of interested parties does not vitiate the proceedings, provided they had notice of the time and place of the examination. But notice is unnecessary in an autopsy by the coroner or public officer, or under his direction, since it is a public act, and adequate notice of itself to all parties. (Wharton, Criminal Evidence, 422; Rodgers, Expert Testimony, 20; 80 North Carolina Reports, 432; Crocker on Sheriffs, 482; 128 Mass. Reports, 422.)

Before moving the body it should be sketched or photographed and its relations to surroundings preserved, as also the position of the limbs as to wounds, weapons, or visible means of death, so as not to rely upon the uncertainty of memory to recall these points at the trial six months or a year hence. Rigor mortis invades the body symmetrically from above downward, and disappears in the same order. Hence, if the upper extremities are rigid and the lower limp, rigor mortis is beginning and death recent. If the reverse, it is disappearing and death more remote. If non-symmetrical—one hand being stiff, while the other holding a weapon is limp, possibly it has been tampered with since rigor mortis occurred. In suicidal shots in the head, death is in coma, and the hand often still grasps the weapon. In shots through the heart, on the contrary, the muscles relax and the weapon falls from the grasp—and here, if the hand is found grasping the weapon, the position may be too good to be true. Such a position would be possible from instantaneous rigor mortis—but not probable. If the body has not entirely cooled, the approximate number of hours since death, and its connection with suspicious persons or events, may be calculated from the rate of body cooling, to be ascertained by two or three observations of the rectal temperature a half hour apart. The rate thus found is on an average 1.6° per hour, but, of course, varies greatly.

The difference between the normal and the temperature at the first observation, divided by the rate, will give the appoximate number of hours since death. For example, if the temperature at the first observation is 89°, the difference between the normal, or 98.6° (assuming death to have been from violence or non-febrile disease), is 9.6°, which divided by the rate per hour (1.6°) gives six hours approximately since death occurred.

Post mortem ecchymoses or suggillations on the body are to be distinguished from bruises by their location on the most dependent parts. Moreover, an ecchymosis disappears on pressure, a bruise remains permanent. On section a bruise bleeds freely, an ecchymosis does not—only minute hemorrhagic points appearing. The color of a bruise fades peripherally, that of an ecchymosis is uniform, unless putrefaction has begun, when the distinction is obliterated. The location of a bruise corresponds with other lesions, and is often accompanied with swelling or abrasions. If the body is moved an ecchymosis will change its location to the most dependent parts, till coagulation fixes it there. So true is this, that if coagulation has occurred and these spots are found on the upper surfaces instead of the lower, and if on section the clots within are upside down, the coagula on top and the serum beneath, we would be justified in the opinion that the body had been turned over after coagulation had occurred, or from 10 to 14 hours after death.

Internal or visceral ecchymosis, or hypostases, are distinguished from inflammations by their location in the most dependent parts and by the absence of adhesions, thickening or pus. Doubtful discolorations in mucous

or serous membranes may be tested by cutting out the part and stretching it between the eye and the light, when, if due to inflammation, the redness remains continuous, but if due to hypostases, it is broken up into bead-like fragments. Ante mortem and post mortem burns each produce a vesication or blister. But in the living it is filled with highly albuminous serum—is surrounded by a red areola, and its base is red and moist—while in the dead it is filled with gas, has no red areola, and its base is dry and glazed. The differentiation between incised wounds inflicted before and after death is sometimes difficult. In the living such a wound bleeds freely and exhibits separated edges, with protrussion of subcutaneous tissue from retraction of the skin. But wounds made after death do not bleed freely, do not gap, and no tissue protrudes, unless putrefaction is present, when distinctions are obliterated. On the other hand, in some quickly fatal wounds, where large vessels are severed, the external appearance resembles that of a post mortem wound, with only slight hemorrhage and coapted edges. Here the only way to distinguish is to open the body and look within. If the internal hemorrhage is copious, it was probably ante mortem; if scant and venous probably post mortem and made for revenge or to mislead. Blood, if fibrinous, was shed either before or soon after death.

Recent blood stains are red from the hæmoglobin they contain. Old ones are dark brown from the conversion of the hæmoglobin to hæmatin, by atmospheric and other changes. But the color sometimes changes so quickly that it is an uncertain index of the age of the spot. We can only say it is recent, eomparatively recent, or old.

Incised wounds are made by the cutting edge of the weapon, and are longer than deep. Punctured wounds are made by the point and are deeper than long. The direction of a cut is ascertained by measurements, being generally deepest at or near the entrance point of the blade and shallowest at its point of exit. Thus it may be judged whether made from right to left, or the reverse, as this often has an important bearing on the question of homicide or suicide, and as to whether a right handed cut could be made by a left handed person, or by the person himself, or by another, in the known or assumed position of person, hand and weapon.

Gunshot wounds, from the fact of their frequently penetrating the body, cut an important figure in the theory of self-defense, enabling us by distinguishing the entrance from the exit wound, to say whether the deceased was shot in front and while facing his adversary, or in the back and while running away. If the muzzle is within one foot of the body the entrance wound exhibits powder burns, which, however, do not surround the wound equally, but are mainly to that side corresponding with the hammer at the instant of discharge. The entrance wound at long range possesses edges clean cut, depressed and slightly contused. It is smaller than the exit wound and smaller than the ball, owing to the elasticity of the skin which stretches on impact, and contracts again after penetration. There is loss of substance from the center of the wound, and its edges cannot be coapted. The exit wound on the other hand is larger, and its edges are lacerated, ragged, and everted. But there is no loss of tissue and its edges may be coapted. The same phenomena are noticeable on comparison between the entrance and exit holes made by a nail driven through a pine board.

Gunshot wounds of the brain produce their fatal effect, not so much through loss of brain tissue, as by the *centrifugal explosive* force of the ball, combined with hydraulic pressure, on entering a closed cavity filled with moist tissue. It is known that a pistol ball may be fired through an empty can without upsetting it; but fired through a can filled with wet sawdust will explode the can.

The writer recently witnessed this explosive effect on the brain In a coroner's case in Kansas City. The ball having entered the cranium at the left parietal eminence had lifted off the entire top of the skull leaving the calvaria almost as cleanly cut as if done with a saw.. It is wise never to be betrayed

into predicting any particular weapon as the cause of a wound, unless the weapon is a known factor in the case. For by so doing you may unwittingly upset the theory of the prosecution, and by stating, for instance, that the wound was made by a knife, when it was made by a broken beer bottle, disrupt the chain of evidence and permit the criminal to escape. Hence only the general kind of instrument should be stated, as a blunt instrument or a cutting instrument, leaving the minute description to others. If blood stains appear on the clothing they should be examined before the autopsy or cut out and preserved, else opponents may claim you made them yourself during the examination.

Every cavity must be examined, notwithstanding satisfactory cause of death be found in any one cavity. Otherwise opposing counsel may seek to invalidate the examination by drawing out the confession that there might have been something wrong in the unexplored cavity, and hence may contend that the lesion you have found may not have been the sole cause, even though the sufficient cause of death. The best order of examination is cranium, spine, thorax and abdomen, unless death from syncope or asphyxia is suspected, for here our chief evidence is to be found within the thorax, and this cavity should first be opened and the heart examined before cutting elsewhere. In syncope from hemorrhage the heart is found in systole and empty, having stopped from lack of material. In asthenia or shock, it is dilated, and both sides about equally filled. In asphyxia the right heart will be gorged, as also the lungs, but the left heart will be contracted and empty. Now, if we here open first the brain or abdomen and sever a vien, we permit the right heart to drain itself through the vena cava, and when later we come to examine it we have suffered our best witness to escape. The heart should first be examined "in situ"—not as is often done, by removing it, cutting off the apex and looking in it as one would a gun! The cavities should be examined as to the fullness of blood before the valves are tested, and our incisions must be so directed as not to injure the valves. The right auricle is to be first incised at right angles to the entrance of the vena cava and a finger inserted and its contents noted. Next the right ventricle is incised anterior and parallel with the right border, avoiding the apex for fear of entering the left ventricle, which is next incised parallel with the left border and to the right of the coronary vessels. Then inserting finger and thumb into the openings in the ventricles, the heart is lifted up and over toward the right shoulder of the body, disclosing the left auricle and pulmonary veins. Here a crescentic cut is made, beginning in the upper vein curving into the auricle and making exit at the lower vein and the cavity explored. Only after noting the contents of the cavities should the heart be removed, weighed, measured, and the valves tested by the water test.

After this, the incision in the right ventricle may be prolonged into the pulmonary artery; that in the left ventricle into the aorta, and those in the auricles into the auricular appendages; or the apex may be cut off and the interior examined. A rough measure of the normal size of the heart, is the persons own closed fist.

As to capacity of valves, the mitral normally admits two fingers and the tricuspid three.

Heart clots are quite frequently present, and are distinguished by their consistence and by their colors, which, like the German national colors, are red, white and black. An antemortem clot or thrombus is white or yellow, and fibrinous, indicative of slow formation, the red corpuscles having been washed out by the current and the fibrin remaining. It resembles a piece of turkey fat. It adheres to the intima and chordæ tendinæ, leaving a roughened appearance when detached. A post mortem clot is dark, fragile, easily detached, and leaves no roughened intima. Generally speaking a white clot means prolonged death; a red clot, sudden death, while a black clot has no significance.

The examination completed, injured or diseased parts are to be placed in clean, separate jars, duly sealed and labeled, and

under no consideration should they go out of the actual or constructive possession of the physician, but should be kept under lock and key till delivery to the chemist or proper authorities. Otherwise their identity cannot be thoroughly established at the trial, for their condition may not be the same as when removed—they may have been tampered with or other parts substituted. Hence by carelessness in keeping them you may permit opposing counsel to prevent their introduction in evidence, and thus invalidate the examination and render nugatory your pains and skill.

The report should be non-technical, and the opinion unbiased by a desire to make out a case, or to be on the winning side. The examinee should state facts and appearances only as he finds them, realizing that he is not responsible if they are not clearer, and that at best their evidence is oftentimes vague and unsatisfactory.

Ruling as to Expert Medical Testimony.

Globe-Democrat.

LITTLE ROCK, ARK., January 27.—In an opinion handed down in the Supreme Court yesterday by Justice Riddick, in the case of B. W. Flynn vs. Prairie County, the interesting point was settled as to whether or not a physician testifying in court in a criminal case as an expert can demand and receive extra compensation from the county.

Dr. Flynn, a physician was summoned to testify in a criminal case on behalf of the State. Before testifying he demanded his fees as an expert witness, but the court refused his demand and compelled him to testify. Afterwards Dr. Flynn presented a bill for $150 to the county court for his attendance and testimony in said case. The county court disallowed his claim and so did the circuit court upon appeal. An appeal was taken to the Supreme Court by Dr. Flynn.

Justice Riddick held: "The only question to decide here is whether an expert who testifies as such on behalf of the State in a criminal case may demand compensation in addition to the usual fees allowed witnesses in such cases. In the absence of any statute allowing such fees, we hold that a physician who testifies as an expert in a criminal case is not entitled to extra compensation from the county. A physician cannot be compelled to make an examination or preliminary preparation, nor to attend the trial and listen to the testimony that he may be better enabled to give his opinion as an expert. For any service of this kind he may demand extra compensation. But such information as he already possesses that is pertinent to the issue he can be made to give whether such information is peculiar to his trade or profession or not. Affirmed."

The Medical Laws of Massachusetts.

Medical Record.

It appears that the laws pertaining to the practice of medicine in Massachusetts provide. among other things, that doctors shall be classed as follows: Class A certificate includes all doctors who are graduates of a recognized medical school and can show diplomas. Class B certificate includes doctors who cannot show a diploma, but have been practicing medicine for the past three consecutive years. Class B claims that class A through influence, is favoring legislation against them in the pursuit of their business.

Hence they called a secret meeting to devise means of protecting themselves, the doings of which the *Boston Journal* found out and published in two columns. There should, says the *Journal of Medicine*, ultimately be no class in medicine except first class, and this should include those who are thoroughly educated in the fundamental branches of medicine, are honest, and conduct themselves like the true gentleman at all times.

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Topeka, Kansas, Saturday, Feb. 2, 1895.

Hypnotism in Defense of Crime.

The avidity with which the criminal and his "accessory after the fact," the criminal lawyer, seize upon mooted points and propositions difficult of disproval, has lately been shown in our State, wherein a crime has been excused in court on the ground that the criminal was hypnotized at the time of committing the act. Moral insanity, emotional insanity, mania, transitoria and the like have done service in years gone by, and now with keen eye observing the effect of platform exhibitions of hypnotism, the criminal lawyer on being called to the defense of his client procures a few books teaching the principles of mesmerism and proceeds to post himself that he may astonish the bar with his erudition and incidentally secure a fee.

He reads that, "Man in the hypnotic state is unqualifiedly and constantly amenable to the power of suggestion." He has observed people on exhibition do the most absurd things, and he reasons that the public, including the judge and jury, have sufficient knowledge of the subject to suit his purposes, hence the defense.

We now have a series of circumstances showing the influence which a second party has over the accused and by a simple train of reasoning it is shown that the suggestiou to commit the crime in question is all that is necessary to set in motion a machine which must follow the prescribed program whether it will or no. There is sufficient haziness and mystery about the subject to establish a "reasonable doubt" in the minds of a jury, and acquittal is the result.

While hypnotism is indeed a mystery and likely to result in harm if improperly used, there is enough known of its manifestations to permit an irreparable leak in our criminal code. We do not desire to treat of the subject at length but simply to state a few of the recognized facts.

Any state of mind which renders the individual irresponsible for his acts, must be caused without his volition.

The hypnotic state cannot be induced against the will of the subject.

When a person of honorable character gives his consent to be hypnotized it implies that he is willing to test an experiment which shall include nothing dishonorable.

A person in the hypnotic state is told to do a thing against which his moral nature revolts, he will become confused and awaken from the induced sleep.

This has been repeatedly demonstrated, and is shown clearly in "The Law of Psychic Phenomena" (Hendson).

Granting that a murder was committed by a person in the hypnotic state, this would be no defense of the crime, since the acceptance of the suggestion proves the murderous nature of the individual.

Religious Belief and Criminal Negligence.

When children, or others who are dependent upon some one else, are allowed to die from neglect or refusal to call in skilled medical attendance, the natural inference would be that the responsible parties were guilty of crime and neglect. The injustice of such neglect is, to a just and reasonable mind, not in the least mitigated by the religious opinions of the guilty party. If through his ignorance or superstition a man believes his child may be cured of diphtheria by prayer or by the magic of a voodoo, and as a result of his belief his child dies from lack of proper attention, it hardly seems to accord with our present state of civilization that such a person should be held guiltless. The laws of England prescribe that "When any parent shall wilfully neglect, among other things, to provide medical aid for his child, being in his custody, under the age of 14 years, whereby the health of such child shall have been, or shall be likely to be, seriously injured, he shall be liable to summary conviction."

Chief Justice Coleridge, in delivering the opinion of the court, in a case where a father was convicted of manslaughter under this statute, said: "The law permits the utmost latitude for the indulgence of religious belief, yet when that belief, reduced to practice, seriously endangers the well being of the people, it becomes a violation of that supreme law which is the welfare of the people, and in the presence of which other laws must yield." (Sajou's Annual, '94.)

In this country we have no law which will convict of criminal neglect in such cases, because the judgment of the parent or guardian is considered paramount. In this enlightened age if in the judgment of a parent his child, sick with typhoid fever, will fare better on a diet of bologna sausage and pickles than under the strict regimen enforced by a medical attendant, and he follows his judgment to the point of killing his child, it is not considered an offense against the law, but an error of judgment.

The importance of this subject becomes more and more apparent as we read the frequent reports of deaths in the hands of Christian scientists. That the innocent child should be allowed to suffer loss of health and perhaps life on account of its parents' fanaticism is a crime against nature if not against the law. If religious beliefs are to be used to palliate crime every criminal will soon have a religion of his own.

The influence of religious belief upon minds with a slight moral obliquity may be well illustrated by a case which came under our observation. A young gentleman called upon a physician to secure his services for the purpose of relieving his wife from the embarrassments of pregnancy. On receiving a curt refusal he proceeded to state that to him there was no harm or sin because he was a "Seventh Day Adventist" and did not believe it was right to "bring any more children into the world." Would the law excuse such a man for the death of his wife and child on the ground that it was in accord with his better judgment and his religious belief.

Will the Bill Pass?

We publish in this number the full text of the medical bill now in the hands of both legislative committees. Some changes have been made which were found necessary in order to strengthen some of the weak points. It is possible some further changes may be made by the committees from the two houses. Some concession will doubtless be necessary, but we can well afford that with a favorable prospect of securing a law. The house committee seems favorably impressed and will, we are assured, recommend the bill. The attitude of the House toward the bill is at present favorable, and a large number of Representatives are pledged to vote for it.

The Senate, or at least the Populist portion of it, is reported as being opposed to any legislation of this kind, and unless some influence can be brought to bear upon them

the result is likely to be unfavorable.

Every physician in the State who can influence a Senatorial vote in favor of the bill should be on the ground when the matter comes up. There never has been a time when the chances for medical legislation were more favorable. Physicians of all schools are unanimously in accord with the movement, and the opposition is altogether from those outside the profession—patent medicine companies and street fakirs.

We can hardly understand how there could be any opposition to the bill from the people if the object was clearly understood The majority of the people of Kansas are opposed to unqualified workmen in any capacity. Some of the most ignorant have expressed their appreciation of the efforts being made. They claim that they are entitled to some protection from unqualified practitioners. They are not capable of judging of the ability of men who make pretentions, and are often sufferers thereby.

The committees meet in joint session Monday evening, and it is hoped that sufficient influence can be brought to bear to secure a favorable report in both houses.

There is an effort being made against an appropriation for the State Board of Health, but it is impossible to say at this time from what source it comes. It would certainly be a sad blow to all hope for future legislation should the State Board be abolished.

The interssts of the profession can best be guarded by the physicians themselves, and if it is ever necessary to turn politicians for a time, now is the time.

Inebriety and Crime Under the New York Code.

The Quarterly Journal of Inebrity.

The common law was emphatic in stating that drunkenness was no excuse for crime, but in certain cases evidences of intoxication was admissible, and could be considered as an extenuation. The statement that a man who made himself voluntarily drunk should take the responsibility for any crime committed, is repeated as if it was a truism. If the assault was unprovoked the fact of intoxication would not be allowed to affect the legal character of the crime. The jury should not consider this fact of intoxication where the question of premeditation was raised. From this the New York penal code has varied, and provides that a crime committed while intoxicated shall be equally criminal, but whenever a purpose or motive or intent is apparent constituting a particular species of crime, the jury may consider the fact of intoxication in determining the purpose of the crime. It is affirmed that the fact of intoxication might show either premeditation and deliberation, or the absence of it; this the jury should consider, and the judge should leave it to them exclusively.

Recently the Court of Appeals have decided "that it does not think that under this statute the intoxication need be to such an extent as to necessarily and actually preclude the defendant from an intent or from being actuated by a motive before the jury would have the right to regard it as having any legal effect upon the character of his act. Any intoxication may be considered by the jury, and the decision as to its effect rests with them. But that a man may be grossly intoxicated and yet be capable of forming an intent to kill or to do any other criminal act is indisputable; and if while so intoxicated he forms an intent to kill and carries it out with premeditation and deliberation, he is without doubt guilty of murder in the first degree.

"If, however, by reason of intoxication, the jury should be of the opinion that the deliberation and premeditation necessary to constitute murder in the first degree did not exist, the crime is reduced to a lower grade of murder, or in the absence of any intent to kill, then to manslaughter in some of its grades. The intoxication need not be to the extent of depriving the accused of all power of volition or of all ability to form an intent."

This is a marked advance from previous rulings of judges and shows that the facts are slowly being recognized. The statement "that inebriates can be grossly intox-

icated and capable of forming an intent to commit crime or kill is indisputable," is only true in theory. The crime committed in this state is always impulsive, unreasoning, and accidental. The next statement of being able to premeditate and deliberate when grossly intoxicated is never seen in reality. While men intoxicated may display some cunning and persistency of purpose, they never deliberate or premeditate when intoxicated. This is impossible for a brain anæsthetized by spirits. In some cases men who have drank a little become possessed of delusions and may develop insane cunning in conduct for a time, but this is so clearly defective as not to be classed as sane. The question of motive and intent in a drinking man cannot be determined; there are no facts or means of comparing his mental operations with that of a sane man. The brain is in a semi-paralyzed condition; and cannot act normally or sanely; also he may have a defective brain when not under the influence of spirits; he may be incapable of forming a conscious motive and intent for any act. The delusion that intoxicated men can act with the same capacity and consciousness as when sane, still clings to the legal theories of crime. Happily, a change is going on in public sentiment, and the law will recognize it in the near future.

Hypnotism and the Law.

The American Lawyer.

The existence of a mysterious power in the nature of hypnotization, cannot be denied or ignored. We have often thought that in the near future the difficulties of magistrates and the law may be very appreciably increased by the recurrence of questions connected with the conduct of so-called hypnotizers. And this idea has been fostered and strengthened by several instances which have arisen during the past year, wherein our judicial tribunals have have had to pass upon the question in one form or another. Notably among these instances was the case in the United States court at Tacoma, last July, where the plaintiff caused an important witness for the defendant to become confused in manner and testimony, hesitating and uncertain in statement, by surreptitiously making passes with his hands in the direction of the witness. The influence thus gained, and which was claimed to be hypnotic, was destroyed by placing a person between the operator and the subject. Then there is the case where a magistrate was applied to for legal process by a man who claimed that he was mesmerized, or hypnotized, by another, who was said to have induced him, while under the power, to disclose his most private affairs, known to none but himself, and which, becoming thus disclosed, led the party exerting the influence to take action that resulted in damage to the complainant. We may add that the magistrate properly declined to grant the process desired.

But hypnotism, as agency in crime, seems likely to be recognized by some of our courts. A case where an actual murderer went free, while the person who was said to have incited him to the crime by hypnotic influence was convicted, and has been sentenced to death for the killing, has just been tried in Wellington, Kas. The facts are reported as follows: Thomas McDonald, while under the alleged hypnotic influence of a man named Gray, killed Thomas Patton. The murdered man had incurred the enmity of Gray, who was claimed to have hypnotized McDonald and then incited him to do the killing McDonald was tried for the offense and on the plea named was acquitted. Gray was then placed on trial for the murder he was claimed to have suggested to the hypnotized subject, was found guilty, and has been sentenced to death. This is positively startling.

We are ready to admit that the new psychology presents most interesting phenomena, and that in the future, in the hands of science, it will probably show realities that would astound our present comprehension and credulity. But we emphatically assert that in the present stage of its development the power is one upon which courts should refuse to base final judgments. The main

difficulty in the matter, it seems to us, is not so much the establishing of the fact of an occult influence, as to prove that, in specified cases, it was actually exerted and actually controlled, as alleged. It would be highly interesting to know by what kind of evidence this was established in the case mentioned, and the exact processes of the trial whereby the result stated was attained. We hope to have the entire proceedings of the case, officially verified, in time for farther treatment in our next issue. Property and property rights, and especially human liberty and human life, are too important and too sacred to be disposed of upon any evidence yet attainable of the actual power of hypnotic influence. We do not believe that the higher courts will, upon the facts as reported and as above stated, sustain the conviction of Gray.

The Physician as an Expert In Court.

From a Lecture by Dr. C. H. Hughes.

It being conceded, then, that insanity is a disease, the question first of all to be determined by the physician summoned in a medico-legal inquiry to pass upon the sanity or insanity of a person arraigned before a court is as to the existence of disease impairing the mind.

The presence or absence of singularities of conduct, of the knowledge of right and wrong, or even of hallucinations, illusions or delusions are subsidiary to the question of disease impairing the mind, though upon these are we sometimes alone or mainly compelled to predicate an opinion, so meager do we occasionally find the pathological data to be.

Metaphysical conceptions of what ought to constitute a sound mind in persons generally, and as one himeelf would act under given circumstances, and supposing another insane if he acts differently, mislead the judgment and are liable to get the physician into one of those cunningly devised logical traps that lawyers are so clever at constructing to the chagrin and discomfiture of unwary and inexperienced men of medicine. A purely metaphysical conception of mental disease is difficult to frame and hard to maintain. A sharp lawyer wants no better victim on the witness stand than an expert so incautious as to attempt such a definition.

If by searching diligently we can find out disease sufficient to account for what appears prima facia to be irrational conduct in a person, we should stick to that as the mariner to chart and compass. In battling for disease the medical man ought to be invulnerable. He might fail as a pure psychologist in crossing swords with a scion of the law.

If erratic conduct and most singular speech be not traceable to disease involving the mind, a patient and laborious search may reveal a rational though sometimes base and unexpected motive to account for them. Before the courts, then, when the existence or non-existence of mental aberration is to be determined, disease is the physicians fort, from which, if he be well informed in symptomatology and morbid processes, he cannot easily be driven.

If, in a person concerning whom the question of insanity has been raised, the physician, on careful examination, finds accompanying or antedating the outbreak of questionable conduct or even immediately preceding it, any considerable degree of disease implicating the organ of the mind, to say nothing of those graver forms of cerebral disorder, such as softening, epilepsy or apoplexy, accompanied with a family history of ancestral insanity or other serious disease of the brain and nervous system, he will generally find little difficulty in arriving at a satisfactory explanation of erratic speech and actions that are otherwise inexplicable.

But before he concludes that singular, immoral, or unlawful or apparently unjust actions are the result of disease, he must be sure that they are not otherwise explainable, for what may appear to be the most irrational conduct, while the real motives are hidden from view, may, in reality, when all the influences leading to it are fully revealed,

be the most rational and absolutely inexplicable upon any other hypothesis than that of entire mental soundness, as was not long ago aptly illustrated in the case of that prison-hardened outlaw, Frank Rande, the American brigand, the Knox county desperado, the "daring and brilliant young bandit of the Wabash," as he styled himself, who is now serving out at Joliet a life sentence for murder. Rande's life has been one from early manhood mainly of reckless adventure and outlawry, and he did many things which persons settled down in life and more regardful of its properties and the restraints of society and law would not have done; but he was not insane. His course in life was not the result of disease, but of the corrupting influences of evil communications. He was seldom ever physically indisposed in any way and never lost sleep, except when voluntarily depriving himself of it to plot evil.

In this connection it is interesting to note in your State the gradual invasion into judicial territory of the true idea of insanity. The prosecution in this trial cited the case of *Hopps vs. the People*, 31 Ill., p. 390, in which Chief Justice Breese says: "It is now generally conceded that insanity is a disease of the brain, of that mass of matter through and by which that mysterious power, the mind, acts. There the mind is supposed to be enthroned," etc.

With this decision to guide him, and the accordant testimony of the medical experts, Mr. J. J. Tunnieliffe, the able State's attorney, made a most clear and convincing analysis of all the facts and a powerful plea. He concluded that Rande was sane because his change of character was due to adequate external cause and not disease, "the chief cause of an insane man's action being the disease of the brain."

Thus far our subject seems plain enough, insanity being undoubtedly a disease of the brain, as post mortem examinations have always established, where the search for the cerebral lesion has been made with microscopical precision and the eye of a skilled pathologist, and as the physical symptoms during life most frequently reveal.

But there are cases of this disorder, more especially in its chronic form, where our diagnosis must be made mainly, sometimes exclusively, on the psychic symptoms alone. These are the cases which will most perplex and confound the general practitioner, as they may even stagger the best psychological expert, tax to the utmost his ingenuity, call into requisition all the resources he has gained from extensive observation, and cause him to wish he had more. It is one of the mysteries of insanity that while it is really one of the most serious afflictions of the brain, it sometimes reveals to us the very slightest and sometimes with difficulty detected cerebral symptoms, while apparently the gravest forms of disease of the brain do not always and of necessity cause disorder of the mind to such a degree as to constitute insanity.

The physical tumult which ushers in and accompanies the earlier stage of insanity sometimes subsides. leaving only a cerebromental scar behind, discernible by no physical sign. The interrogation of the mental workings alone must here be relied on to reveal the existence of disorder in the delicate physical machinery of the mind, in the many shaped and numberless cells of the cerebral cortex, or in the vessels and meninges or cavities of the brain.

There are cases the existence of whose insanity is only a suspicion, or a possibility, based not so much on any marked physical disease perceptibly involving the brain, as in singular conduct and opinions and indubitable hereditary taint, like that of Passanante, who lately attempted the life of the king of Italy. Though a commission of medical inquiry in his own country found no evidence of insanity in him, he was of a nerve degenerate family, three of his brothers and two of his sisters in a family of seven having been insane, and an eminent alienist of great skill and large experience in practical psychiatry entertained no doubt of Passanante being in a state of incubative insanity.

An Act

To regulate the practice of medicine in the State of Kansas, and to regulate the sale of drugs, nostrums and medical preparations by itinerant vendors.

Be it enacted by the Legislature of the State of Kansas.

SECTION 1. That no person shall practice medicine in this State, unless such person is of good moral character, and is a graduate of a legally chartered medical institution of good repute, or has been practicing medicine as a means of livlihood continuously in this State prior to the taking effect of this act, and has complied with the laws then in force, regulating the practice of medicine.

State Board of Health—Verification of Diploma—Application.

SEC. 2. Any person desiring to practice medicine within this State shall make application to the Secretary of the State Board of Health for a certificate. If a graduate in medicine, he must present his diploma to the State Board of Health for verification as to its genuineness. Such application may be made in person or by letter, or by proxy. The verification of the diploma shall consist of the affidavit of the applicant that he or she is the lawful possessor of the same, and is the person named therein.

Non-Graduates.

SEC. 3. If the applicant is not a graduate he or she shall appear before the Board at one of its regular meetings and shall make proof satisfactory to the Board that he or she has the qualifications prescribed for non-graduates by section 1 of this act: *And provided*, that such application for a certificate shall be made within three months after the taking effect of this act.

Certificate.

SEC. 4. Upon the making of the proof required by sections 2 and 3, a certificate signed by all the members of the Board and attested by the Secretary, shall be issued to the applicant; and the possession of such certificate, after it has been recorded as hereinafter provided, shall be conclusive as to the right of the lawful holder thereof to practice medicine in this State.

Midwifery.

SEC. 5. Persons desiring to practice midwifery shall make application to the State Board of Health, through its Secretary, for certificates. Upon satisfactory proof being furnished the Board that the applicant is a graduate in midwifery, a certificate shall be issued, signed by all the members of the Board, and attested by the Secretary, and such certificate, after it has been recorded as hereinafter provided, shall be conclusive as to the right of the lawful holder thereof to practice midwifery in this State.

Examination—Fees.

SEC. 6. The State Board of Health shall receive through its Secretary applications for certificates and examinations. The President and Secretary shall have authority to administer oaths and the Board to take testimony in all matters relating to its duties. The Secretary shall receive a fee of $2 for each certificate issued to a graduate, and $5 for each certificate issued to applicants who are not graduates, and to graduates in midwifery, and all such fees shall be paid by the Secretary into the treasury of the Board. In selecting places to hold its meetings, the Board shall so far as is reasonable accommodate applicants residing in different sections of the State, and due notice shall be published of all its meetings for examinations.

Recording of Certificates.

SEC. 7. The State Board of Health shall furnish to the county clerk of each county a list of all persons residing in their respective counties to whom certificates have been issued. Every person holding a certificate from the State Board of Health shall have it recorded in the office of the clerk of the county in which he or she resides, within three months from its date, and the date of recording shall be endorsed thereon. Until such certificate is recorded as herein provided, the holder thereof shall not exercise any of the rights or privileges conferred by such certificate. Any person removing to another county to practice shall record his certificate in like manner in the county to which he removes. The county clerk shall keep in a book provided for the purpose a complete list of the certificates recorded by him, with the date of the issue of the cer-

tificate. If the certificate be based on a diploma, he shall record the name of the medical institution conferring it, and the date when conferred. The register of the county clerk shall be open to public inspection during business hours.

Refusal or Revocation of Certificate.

SEC. 8. The State Board of Health may refuse to issue the certificates provided for in sections 4 and 5, to individuals guilty of unprofessional or dishonorable conduct, and it may revoke such certificate for like cause. Whenever the State Board of Health shall revoke a certificate, as provided herein, the Secretary of the Board shall notify the clerk of the county wherein such certificate has been recorded, and the clerk shall make an entry on the margin of the record in which such certificate was recorded, showing such revocation.

Definition of Practicing Physician.

SEC. 9. Any person shall be regarded as practicing medicine within the meaning of this act, who shall treat, operate on, or prescribe for any physical or mental ailment of another. But nothing in this act shall be construed to prohibit service in cases of emergency, or in the domestic administration of family medicine. And this act shall not apply to commissioned surgeons of the United States army, navy, or marine hospital service in the discharge of their official duties, or to practicing physicians or surgeons from another State who may be called into this State for the purpose of consultation, or to perform or assist in performing an operation: *And provided*, This act shall not apply to the practice of dentistry, and its provisions shall not be construed to be in conflict with the laws regulating the practice of dentistry.

Itinerant Doctors—License.

SEC. 10. Any itinerant doctor who shall open up a transient office in any part of this State who shall by writing or printing or any other method profess to cure or treat disease or deformity by any drug, nostrum, appliance, manipulation or other expedient, shall pay a license of one hundred (100) dollars per month, to the Secretary or the State Board of Health, and the Board shall issue a license to such itinerant, which shall be signed by the President and attested by the Secretary: *Provided*, That the Board may for sufficient cause refuse such license. All moneys received under the provisions of this section shall be paid into the State treasury by the Secretary. Any such itinerant doctor who shall open up a transient office in any part of this State who shall by writing or printing or any other method profess to cure or treat disease or deformity by any drug, nostrum, appliance, manipulation or other expedient, without having the license required by this section, shall if found guilty be fined in any sum not less than one hundred (100) dollars and not exceeding two hundred (200) dollars for each offense.

Penalty for Practicing Without a Certificate—Using Another's Diploma.

SEC. 11. Any person practicing medicine in this State without the certificate issued by this Board in compliance with the provisions of this act, shall, for each and every instance of such practice, if found guilty, be fined in any sum not less than one hundred dollars and not exceeding two hundred dollars. And any person filing or attempting to file as his own, the diploma or certificate of another, or a forged affidavit of identification, shall be guilty of forgery, and upon conviction shall be subject to such punishment as is provided by the statutes for the crime of forgery.

SEC. 12. Every person who shall wilfully and corruptly swear, testify or affirm falsely to any material matter, upon any oath or affirmation, or declaration, legally administered, in any matter or proceeding before said Board of Health under the provisions of this act, shall be deemed guilty of perjury.

SEC. 13. All prosecutions under this act shall be conducted by the county attorney for the county in which the offense was committed, in a court of competent jurisdiction, and all fines imposed and collected shall be paid into the county treasury to the credit of the school fund. Upon conviction of either of the offenses mentioned in this act the court shall order the defendant committed to the common jail of the county until the fine and costs are paid, and upon failure to pay the same immediately the defendant shall be committed under said order.

SEC. 14. All acts and parts of acts inconsistent or in conflict with this act are hereby repealed.

SEC. 15. This act shall take effect and be in force from and after its publication in the official State paper.